

At page 4, line 25, please add as follows:

- - The present invention also provides A DC power supply system for DC loads requiring DC electrical power that includes power control means for receiving AC electrical power from a grid source and delivering required low voltage DC electrical power to said DC load. It converts the AC electrical power to DC electrical power.

In addition, one embodiment of the present invention includes a battery means that provides required DC low voltage electrical power on a standby basis to the power control means.

E1 The battery means is connected to the power control means so as to permit the battery control means to maintain the battery in a fully charged condition during normal supply of AC electrical power from the AC grid source.

The power control means of the present invention delivers required DC electrical power from the battery means to a DC load during an AC electrical power outage so as to maintain normal operation of the DC load without interruption.

In addition, the present invention optionally provides a DC power supply system having a photovoltaic [PV] source of DC electrical power connected to the power control means in order to reduce the amount of electrical power taken from said grid source.

The DC power supply system of the present invention optionally further provides a cogeneration source of DC electrical power connected to the power control means to reduce the amount of electrical power taken from a grid source.

Further, the present invention alternatively provides a DC power supply for DC loads requiring DC electrical power. The DC power supply includes a separate power control means for receiving AC electrical power from a grid source. The DC power supply delivers required low voltage DC electrical power to a DC load. The power control means converts the AC electrical power to DC electrical power.

Cont
E1
In addition, in an alternate embodiment, the DC power supply system for DC loads requiring DC electrical power includes a power control means for receiving DC electrical power from a DC power source and for delivering required low voltage DC electrical power to the DC load. The power control means is also directed toward the function of controlling charging of a battery means.

In this battery-charging embodiment, the present invention's battery means provides the required DC low voltage electrical power on a standby basis to the power control means.

Also, in this battery-charging embodiment, the battery means is connected to the power control means so as to maintain the power control means in a charged condition during hours of input from the DC power source.

Furthermore, in this battery-charging embodiment, the power control means delivers required DC electrical power from the battery means to the DC load during times when power from the DC power supply is not available.

The DC power supply system of the present invention further provides an optional embodiment wherein the DC power source is a cogeneration unit.

Alternatively, in a different embodiment of the present invention, the DC power supply system has a DC power source that is at least one photovoltaic panel.

In yet another embodiment of the present invention, the DC power supply system furnishes power to a DC load that is a household appliance. The household appliance may alternatively be a microwave oven, a heater, or any other household electrical device.

Furthermore, in further embodiments with or without access to conventional AC power, a DC generator (e.g.- powered by a natural gas engine) is used either as a primary source of electrical power or as a cogeneration companion to normal AC grid power. Thus the power control means can be supplied power for use by a high efficiency lighting system in much the same manner as DC electrical power is received from a photovoltaic panel.

It can be appreciated that any compatible DC load can be serviced by the power control means of this high efficiency lighting system in addition to DC ballasted fluorescent lighting or instead of the latter lighting load.

CE
These other DC loads can be supplied with standby power from a storage battery as well. Some examples of DC loads include household appliances, microwave ovens, and heaters. - -

On page 7 line 28 of the specification, please amend the specification as follows, wherein the additions are underlined:

- - Figure 10 shows a block diagram of the PCU 1. The AC input is rectified by DC Rectifier Means 50 such as a bridge circuit. The Power Factor Correction Means 51 is used to achieve a high power factor (.99) at the AC input. The Control Means 53 and Voltage Regulator means 52 interact through circuits such as pulse width modulation and DC to DC switching power supply topologies to provide the nominal 26.6 volts to the lighting ballasts or other suitable DC loads 57 through the power junction means 55. Other voltages are also possible, such as 13.3, 26.6, 39.9 etc.

E2
The Battery Undervoltage Cut-Off 56 disconnects the battery 2 in situations of depletion to prevent "over sulfation" or chemical and physical damage to the storage battery. The PV Voltage Regulator and Suppressor 54 is a power conditioner block to suppress voltage transients (such as from lightning strikes in the vicinity) and also to prevent over charging of the storage battery from the PV panel 25.